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Ministry of Agriculture
Quezon City**

**DEPARTMENT OF AGRICULTURE
1977 ANNUAL REPORT**

**Prepared by:
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**1977 ANNUAL REPORT OF THE
DEPARTMENT OF AGRICULTURE**

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INTRODUCTION

This Annual Report for Calendar Year 1977 of the Department of Agriculture hopes to serve, first, as a milestone in the Department's efforts towards attaining self-sufficiency in food; and second, as a reminder of the need for sustained integration in the over-all effort to make the Philippines a self-reliant nation. The task is within our capabilities; but agricultural development is a responsibility not only of the Department of Agriculture but also of the entire nation. Hopefully, the task can be assumed by the nation through the spirit of cooperation.

Overall, the level of agricultural development in the past year has been satisfactory. Along with self-sufficiency in rice as a result of the Masagana 99 program, there has been an upsurge in white corn production for human consumption. We still however, lack white corn and yellow corn for animal feeds. The livestock industry has produced enough supply of poultry meat and pork; and our export expansion program continues to generate foreign exchange earnings from both traditional and new non-traditional exports. In line with the country's import substitution program, the successful propagation of commercial-scale cotton production in Pangasinan and La Union, has proven that cotton for which the country spends \$50 million dollars annually in imports can be grown in the Philippines as a profitable second crop.

To a large extent, the Government's continued strengthening of our research base, the accelerated transfer of technology to our farmers, as well as the continued pouring out of credit in the countryside and the sustained price support program to assure profitable prices to our farmers, have contributed to the present level of agricultural development.

These efforts have resulted in increased income besides giving our farmers (who constitute 70% of our population) a new sense of direction and dignity. However, it is recognized that the sustained achievements in rice, corn, poultry and swine production must be complemented with increased production of other basic items of which we are still falling short, specifically in beef and/or carabeef and feedgrains (yellow corn, sorghum and soybean) if we are to assure adequate food security for the whole population.

The following pages summarize activities of the Department of Agriculture's Programs and Projects under the main thrusts, namely, Rice, Corn and Feedgrains, Cotton, Agribusiness Development, Fertilizer and Pesticides, Integrated Rural Development Projects, Nutrition, Beef/Carabeef, Poultry and Swine Industries and Agricultural Exports (coconut and abaca).

CHAPTER I

DA POLICIES, DIRECTIONS AND PROGRAMS

GENERAL OBJECTIVES

The primary body handling all agricultural activities is the Department of Agriculture. It was established to accelerate agricultural development along the objectives of increasing productivity and farm income and improving the overall condition in the rural areas. It seeks not only to increase food production but also to bolster export expansion and import endeavors.

Before a country can engage successfully in various development endeavors, it must first be able to feed its teeming population with enough nutritious food and produce a healthy and strong nation. Agriculture, therefore, being wide in scope, requires constant assessment, improvement and adaptation of its vital elements to the changing conditions to be able to achieve its goals.

Similarly, the Department of Agriculture has concentrated its efforts primarily on four main areas, to wit:

- a. maintaining self-reliance in rice and building up a buffer stock for food security;
- b. the launching of a new feedgrains program called "Maisan 77"
- c. the expansion of cotton production with the aim of replacing all cotton imports by 1985; and
- d. laying the groundwork for a comprehensive agribusiness development program.

In its pursuit of optimum development and in support of national priorities, the following programs and projects were undertaken:

Rice Program - Recognizing the urgent need for a massive, ambitious program for self-sufficiency in rice, in May 1973, President Ferdinand E. Marcos launched the MASAGANA 99 rice production program.

This paved the way for the reorientation of more than one million farmers tilling the target areas of half of the country's riceland. Considered by the President as a program for national survival, the rice program encouraged the use of fertilizers, high-yielding and disease-resistant rice varieties, timely application of fertilizers, control of pests and diseases, proper water management and proper weeding, which would enable the small farmers to harvest at least 99 cavans of palay. Production leaped to 127 million cavans, the highest level ever attained in our country's history at that time. More significantly, the next year, despite typhoons, the program was able to push production slightly upwards by 1.8 per cent to 129 million cavans. In 1976 there was a further increase by 85 per cent in production bringing levels to 140 million cavans.

This year 1977, the program's fourth year, saw last year's output surpassed by 7 million cavans, or a substantial increase of 5 per cent as the year's total palay crop amounted to 147 million cavans.

Corn and Feedgrains Program - Since 1972, the livestock industry's feedgrains requirement has increased by 12 per cent annually. The Department of Agriculture, recognizing the urgent need to replace the importation of yellow corn and sorghum, has embarked on a new feedgrain production program called "Maisan 77". Through its program, it seeks to attain self-sufficiency in feedgrains within three years, with emphasis on the utilization of white corn as a staple cereal for human consumption and as a feedgrain, and at the same time to begin exports of yellow corn and sorghum to Japan, Korea and Taiwan. Conceived in lieu of the Masaganang Maisan program, the "Maisan 77" program has focused its efforts on:

- a. use of white corn as a feedgrain which is produced in surplus quantities; but is traditionally used for human consumption;
- b. utilization of a new package of technology and new seed varieties;
- c. close technical supervision;
- d. increase of credit ceiling from P500 per hectare under the old Masaganang Maisan program to P900 per hectare under the new Maisan 77; and

- e. marketing support and incentives from the National Grains Authority.

Cotton Program - The past five years brought a turning point in the large scale production of cotton. The Philippine Cotton Corporation, a quasi-government institution created under P.D. 350 in 1973 (amended by P.D. No. 1063 in 1976) was charged to undertake, implement and supervise cotton production in the Philippines on a commercial scale. Pilot projects were established in 1974 covering 200 hectares in Pangasinan, La Union, Ilocos Norte and Nueva Ecija, the largest of which was at San Fabian, Pangasinan.

The first year of the program proved not only viable in itself but it generated income for farmers in rainfed areas planting cotton as a second crop to rice. Based on these results, the Department of Agriculture, thru the Philippine Cotton Corporation, drew up a national cotton development program with the objective of attaining self-sufficiency in cotton within four years thru:

- a. expansion of cotton hectareage; and
- b. expansion of credit availability

and thus wipe out heavy importations worth \$50 million. In support of this thrust, the country's first cotton ginnery complex was opened in San Fabian last year, capable of processing cotton harvests from as much as 15,000 hectares.

Agri-business Development Program. As part of the impetus developed during the past five years in increasing food production and switching resources to the countryside, a major effort has been made to combine the financial resources and managerial expertise of the private sector with the production capabilities of the small farmers. This thrust was crystalized by the issuance of P.D. 1159, otherwise known as Prescribing Incentives for Incentives in Agricultural Inter-prises. To delineate the areas/commodities eligible for investment incentives in agriculture under this decree, the BOI and the DA had already conducted public hearings. The preliminary list includes the production of cattle and carabeef dairy and dairy products, hog and hog by-products, livestock, hog and poultry breeders, goats, processing of feed and feed ingredients, yellow corn, soybean and/or winged beans, mungbean, hybrid seeds and certified seeds, cassava,

cotton and/or ginning, tobacco, coffee and post-harvest processing, production of species, aquaculture, processed fish and marine products, fruits and/or processing of vegetables, irrigation, and tract or pool and other specialized farm services. Also covered are: tree farming peanuts, sorghum, rice, grain processing, processed abaca fiber, commercial deep sea fishing, and processed meat.

The agribusiness development program under the new agribusiness incentives decree was drawn up to provide incentives specifically designed for agricultural projects. It incorporated the existing guarantees and incentives under the old Investment and Exports Incentives Acts and in addition, provided new incentives to offset higher risks and peculiar problems of agriculture.

Fertilizer and Pesticides Program. The Department of Agriculture has embarked on a Fertilizer and Pesticides Program. It recognizes the correlation of the level of food production to the amount of fertilizer used and at the same time seeks to regulate and develop the multi-million peso chemicals input industry to assure our farmers of adequate supplies of fertilizer and pesticides at reasonable prices, educate the agricultural sector in the use of these inputs, and protect the public from the inherent risks of their use.

As a result of the great floods in 1972 and the oil crises in 1973, the country experienced tight fertilizer supply as fertilizer import prices and local production costs soared. The use of fertilizer dropped considerably and the resulting yields per hectare consequently decreased. Realizing the urgency of the situation, the President created the Fertilizer Industry Authority to insure that adequate supplies of fertilizer were available at the lowest possible cost to farmers while ensuring the long-term viability of the local fertilizer industry. The DA through the FIA, decided to lower prices by increasing the fertilizer subsidy until the world prices become stabilized. In the meantime, measures had been taken to develop the local fertilizer production and lessen our dependence on the world market.

Through this program, the DA took steps to extend the same protection and support for the farmers' pesticide needs and undertook such other measures relevant to life and environmental protection, which, heretofore, had not been given profound awareness. Since pesticides pose a great hazard to life and environment, their proper use requires proper supervision. By virtue of a presidential decree, a new strengthened agency -- the Fertilizer and Pesticides Authority

(FPA) was created this year to regulate both the fertilizer and pesticides industries.

Since its implementation, the program has been able to reduce the fertilizer subsidy from P209 million in 1976 to only P67 million this year, largely due to its successful procurement at price levels lower than the market prices and still on a continuing downtrend.

The Integrated Rural Development Projects. As an early action foreshadowing the New Society's emphasis on rational and integrated development of the countryside, the President, on July 10, 1973, issued LOI 99, creating a Cabinet Coordinating Committee on Integrated Rural Development Project (IRDP) under the NEDA and chaired by the Secretary of Agriculture to coordinate all integrated rural development projects in the country. The on-going projects are the following:

1. Mindoro - The project was started in June, 1973, when a World Bank project identification and preparation mission, together with a team of Filipino counterparts, organized under the Department of Agriculture, prepared the initial study for the two provinces of the island of Mindoro. The main components of this project are irrigation, roads, minority assistance, schistosomiasis control, watershed protection, ports and agricultural production. Among its significant accomplishments are the seedling production project which resulted in the production of about 100 million seedlings, as well as the planting of foundation and registered seeds by the different seed growers with an aggregate area of 386 hectares; rodent control, in which a total of 2,371 hectares planted to major crops involving 1,146 farmers were saved from rat infestation; and the establishment of two settlement areas in Lantuyan and Malasisi as part of the Mangyan assistance project.
2. Bicol River Basin - This project covers 42 municipalities and three cities in the provinces of Camarines Sur and Albay. Comprising approximately 312,000 hectares of prime arable lands, it has the following project components: pilot land consolidation; pilot livestock projects; crop production; compact farming; comprehensive water resources; topographic mapping; hydrometeorological program; water

balance and supply studies; and on-farm water management. There are two capital projects presently being implemented amounting to P184 million. The first is designed to develop a functional irrigation system in Libmanan and Cabusao and the second, to construct secondary and feeder roads in the Pico area.

3. Samar - In November, 1976, the President issued PD 1048 directing the Cabinet Coordinating Committee on Integrated Rural Development Projects to implement the Samar Integrated Rural Development Project. Feasibility studies are currently being completed to cover technical, economic, financial, institutional and market viability of priority project components of the farmer project. Islandwide studies are currently being conducted for roads, village water supply, power, health, ports, fisheries, agricultural extension, and coconut production/processing.
4. Cagayan - The Cagayan Integrated Agricultural Development Project was created on August 30, 1977, under PD 1189. It has a total project cost of US \$41.1 million of which \$22 million is financed by the Overseas Economic Cooperation Fund (OECF). Strategically located over Cagayan province, the area has a coverage of 13,200 hectares with three main project components, to wit: irrigation and drainage system for 13,200 hectares; rural electrification system for five municipalities in lower Cagayan, and agricultural support services, highlighted by the establishment of the agricultural pilot center in Iguig which will be operational by the middle part of 1978. On the whole, the project is expected to augment the annual pelay production in Cagayan by 80,000 tons or an incremental income of about P88 million annually for some 8,000 farmers.

Nutrition Program - As a program priority of the Department of Agriculture, nutrition is being integrated into the mainstream of the overall plan for development. This program has made considerable headway since the National Nutrition Council was created in 1974 under PD 451. It received its biggest boost when it was further revolutionized when the First Lady founded the Nutrition Center of the Philippines on her birthday in the same year. To insure better food intake for the Filipino people and in support of the food pro-

duction program, the Department of Agriculture, on its part, launched the following projects: Green Revolution, Green Revolution Disposal, and the Gulayan sa Kalusugan.

For Calendar Year 1977, the Green Revolution project, dubbed as food production in backyard areas to fight malnutrition and to augment farmers' income, has recorded 17,221 hectares planted to assorted vegetables, field crops and fruits. Production from this area alone was estimated at 3,189 tons valued at P6 million.

Under the Green Revolution Dispersal project, initiated by the Department of Agriculture through the Bureau of Animal Industry, it has distributed a total of 40,170 heads of cattle, 45,564 heads of carabao and 159,366 heads of hogs, goats and rabbits.

The Gulayan sa Kalusugan project, despite inadequate credit assistance and other problems encountered along the way, has scored annotable production figure of 508.3 thousand metric tons in its Phases II and III-A, Phase III-A which was implemented in July 1977 and ended in December of the same year, covered an area of 18,638 hectares or 74 per cent of the total target area of 25,092 hectares.

A massive nutrition information campaign is also being undertaken. Information obtained from the field in the implementation of the Philippine Nutrition program is providing basic indicators of the nutritional level of the population and its general well-being.

Beef/Carabeef Program - Considered as an infant industry, the growth and development of the beef/carabeef industry has been rather slow. However, to accclerate the development of this industry, the government launched the 10-year beef/carabeef development program. So far, the following outputs have been realized; 1) forage production and pasture projects; 2) feed control; 3) animal health; and 4) animal breeding service.

To give the industry a shot in the arm in the form of better prices as well as to boost the government's efforts at increasing production, livestock auction markets were established by the government under the supervision of the Bureau of Animal Industry.

Such auction markets encouraged competitive bidding among buyers, grading of animals into classes and sales on per kilogram basis instead of per head basis. There are now 23 auction markets in the Philippines and an additional 50 more will be opened soon.

Coconut Program - To boost the growth of the coconut industry the Department formulated and adopted a national coconut replanting scheme which would increase coconut output thru replanting of the existing 2 to 3 million hectares of coconut plantation with high-yielding varieties. The importation of 70,000 seednuts from the Ivory Coast in 1976 was an initial step towards this goal. In preparation for the massive replanting in 1980, these seednuts are being germinated, grown and maintained in the different hybrid nurseries established in the eight coconut regions throughout the country.

Abaca Production and Development Program - A four-year program, the APDP was envisioned to rehabilitate the abaca industry's performance which had dwindled during the last decade due to shrinking market share, declining prices and diminishing production. Implementation of the program actually started in the latter part of 1974 by the DA, thru its agencies - Bureau of Plant Industry, Bureau of Agricultural Extension, Bureau of Agricultural Economics and Bureau of Soils in coordination with UPLB and the Department of Trade, thru the Bureau of Fiber Development and Inspection Service. Under the abaca program, all activities were concentrated on the quality assurance of abaca production, increasing the efficiency of abaca farm enterprises, operations of abaca experiment stations and demonstration farms, economic research on abaca industry and rehabilitation program, abaca marketing practices, soil survey, analysis and management, and research and development for abaca rehabilitation and rationalization. As of December 1977, the program has developed seven abaca hybrids recommended for commercial planting. Some 33,554 hectares had been rehabilitated and 7,605 hectares newly opened or planted or a total of 41,259 hectares fully supervised by abaca technicians. The program has also served 45,372 farmers covering about 76,470 hectares which produced approximately 53,743 metric tons of fibers; provided credit assistance to 1,021 farmers whose approved loans amounted to P6,533,275 covering 3,539 hectares; conducted 15 training/seminars with 235 participants; held three abaca conventions with 1,100 delegates coming from farmers, traders, exporters, etc; and organized 229 abaca farmers associations with a membership of 1,851.

Problems in the administration of the development of the abaca industry, however, continue to crop up, but with the creation of the AIDA under P.D. 1208 on October 8, 1977, the abaca program was given new hope in the coming years.

CHAPTER II DA ACCOMPLISHMENTS, CY-1977

Bureau of Plant Industry

True to its commitment to the national effort towards self-sufficiency in food for our burgeoning population and to help the government attain economic stability, the DA, thru the BPI, has continuously pushed through its objectives of promoting, developing and improving plant industries of the country. These were done by increasing the productivity of agricultural crops thru agricultural research, through a total of 634 research units representing 347 research studies conducted in 43 experiment stations and seed farms. Research studies on major food crops and others with export potentials were maintained to help the government in its effort to increase production and also help boost foreign exchange earnings from agricultural crops.

In crop production, an aggregate area of 585.54 hectares was planted for seed production of various crops. This was conducted in some 45 experiment stations and seed farms. As of December, 1977, total seed inventory was 938,747.61 kilograms composed of seeds of lowland rice, upland rice, white glutinous corn, yellow corn, sweet corn, sorghum, soybeans, mongo, peanut and assorted vegetables. Distribution reached 637,180.94 kilograms of seeds of various crops.

Plant material production reached 1,498,490 pieces valued at P1,176,464.40. This number represents 110 per cent production accomplishment over the total target production of 1,365,705 sexually and asexually produced seedpieces. Of this number, 1,000,049 seedpieces or 70 per cent was distributed.

The phenomenal growth in the export of our major agricultural products (fresh fruits, vegetables, tobacco and coconut products and others) was noted during the year in review. A comparative projection on the volume in kilos and value in pesos of some of the agricultural products exported from CY 1976 to CY 1977 is as follows:

COMMODITY	QUANTITY	(KGS)	VALUE	(PESOS)	% IN- CREASE/ DECREASE
	1976	1977	1976	1977	
Banana	68,861,555	68,514,432	1852,307,738	P789,883,618	7.32%
Pineapple	43,394,100	27,644,052	10,706,742	10,186,439	36.29%
Mango	2,916,793	3,600,837	1,270,660	9,200,160	18.99%
Tobacco Leaf	16,572,098	20,273,368	118,807,808	156,209,244	18.25%
Desiccated Co- conut	3,770,143	23,088,867	13,654,999	156,670,322	83.67%
Tomato	417,400	380,650	1,847,856	1,304,946	8.8%
Ginger	3,048,393	1,619,229	5,898,715	3,561,750	46.5%
Coffee	7,814,198	9,980,872	112,130,694	195,188,140	21%

Along crop protection, two plant diseases, tungro and infectious gall, posed serious damage to rice production in 1977, infecting 4,823 hectares and 1,150 hectares, respectively. Tungro infestation was reduced by one-third during the year and the infected area caused by infectious gall was controlled by as much as 82 per cent mainly through the coordinated efforts of BPI fieldmen and farmers.

In May 1977, the BPI had also made efforts to suppress major locust outbreaks (which threatened to develop into migratory locusts) in South Cotabato and Sultan Kudarat. Timely control programs, which included the BRAPPS and operations made by private corporations, prevented early transformation of transient locusts and effected their control. Results of the 8-month locust control campaign, as seen from the table below, indicate a remaining 32 hectares of hoppers and flyers as compared to some 1,281 hectares of hoppers and flyers controlled mainly by nighttime spraying work.

	No. of Out- break areas	CONTROLLED (HA.)			REMAINING (HA.)		
		Hopper	Flyer	Total	Hopper	Flyer	Total
South Cotabato	7	466	308	774	7	25	32
Sultan Kudarat	7	290	217	504	0	0	0
TOTAL	14	756	525	1,281	7	25	32

The control program described forestalled large-scale dispersion of migratory locusts to other regions and prevented any large-scale losses in field crops.

Other plant diseases that affected standing crops in lesser degrees were rice blast, bacterial leaf blight and sheath blight. However, effective control measures against these pests and diseases involving the use of resistant varieties, timely application of insecticides and effective pest surveillance system were undertaken.

In domestic quarantine, the DA, through the BPI, has taken the initiative of subjecting to plant quarantine inspection and necessary treatment all domestic movements of all plants and plant products by posting quarantine personnel at all domestic airports and seaports with the assistance and cooperation of PCA, DLGCD, military authorities and other agencies. A national coordinator was designated to coordinate all quarantine activities. There is now an on-going cadang-cadang control program in the province of Samar. Efforts are now being concerted in reviving the once flourishing citrus industry in Batangas, where most of the trees were destroyed due to yellow-mottling decline and other kinds of diseases. Control of coffee berry borer in Laguna and adjoining provinces, as well as in Mindanao areas, is also being intensified.

Bureau of Agricultural Extension

Rice production has always been the priority concern of the Bureau of Agricultural Extension. Assistance rendered has been centered on intensified technology transfer and the education of farmers on the benefits of the supervised credit schemes along with farm planning and budgeting. Assisted rice farmers registered a total of 1,959,961 both in the programmed and unprogrammed areas that covered about 2,751,958 hectares and yielded an estimated production of 7,015 metric tons of palay. In the programmed area under the Masagana 99, 1,437,045 farmers were assisted, covering an area of 1,970,990 hectares. A reported production of 5,066,245 metric tons of palay was obtained from the 1,606,699 hectares harvested. Aside from the government programmed area, the Bureau's grassroot workers also assisted some 522,916 farmers outside the Masagana 99 program covering about 780,968 hectares. An estimated production of 1,949,271 metric tons of palay was attained from the 701,248 hectares already harvested during the year covered.

Another commitment of the Bureau is the Palayan ng Bayan, a project of the First Lady, Madame Imelda Romualdez Marcos and the Provincial Governors, which has the objective of developing idle virgin public lands into viable crop areas. About 4,626 hectares under the project have been technically assisted by field extension specialists and technicians in the production and proper management of rice, corn, feedgrains, peanut, mongo and other crops.

One of the major projects of farm extension is feedgrains production covering an area of 763,620 hectares which were planted to corn, sorghum, and soybeans that has brought an estimated production of 831,184 metric tons of feedgrains. For other crops (consisting of vegetables, rootcrops, saba, banana and fruits) a total of 1,386,075 farmers were served. An estimated production of 1,607,962 metric tons from an aggregate of about 642,409 hectares were realized throughout the archipelago.

Along the abaca development program, nine out of the twelve regions are actually engaged in developing and rejuvenating the abaca industry. A total area of 46,177 hectares was planted with an expected production of 63,510 metric tons and directly assisting and serving 39,647 farmers.

The BAex has also undertaken the campaign in poultry and livestock production to help farm families generate additional income and improve their health condition. Assistance has been rendered to some 1,021,739 backyard raisers. Semi-commercial projects were also given assistance but only to a limited extent. Total technical assistance rendered to accelerate livestock and poultry production were the following: Swine: farmers assisted-205,143; no. of heads-799,504; Large animals: farmers assisted-300,392; no. of heads-325,551; Poultry (broiler):farmers assisted-225,927, no. of heads-4,531,510; Poultry (egg production): farmers assisted-209,718,140; no. of layers-2,905,174.

For Calendar Year 1977, there were 14,624 Farmers Associations with a total membership of 318,700. Providing the means of interaction between the field extension workers and the farmers are the organized practical farming classes. These classes were conducted to encourage exchanges of views and experiences among the farmers, opinion leaders and government extension specialists and technologists. A total of 53,531 sessions were held in the year 1977 with 319,298 farmers in attendance.

Along nutrition, the DA, thru the BAEEx, has pursued several intervention schemes such as selective food production, nutrition education, serial weighing of children participants, supplementary feeding, putting up of supplementary food mix centers and preservation of food. It assisted 388,591 families in nutrition education with a reported production of 27,512 metric tons of various food products. With the joint coordination efforts of the Bureau of Agricultural Extension, the National Nutrition Council, and the United States Agency for International Development, it has reported very encouraging results of the malnutrition prevention project on its third year of continuous operation. A total of 29,243 infants were enrolled under this project in 1,252 barangays in 34 provinces covering 11 regions with the exception of Region 12. The Malnutrition Prevention homemakers classes covered by 175 home management technologists (HMTs) involving 25,610 participant mothers.

For the purpose of increasing the income of farm families to support the various schemes of the nutrition program especially on supplementary feeding, learning activities centered on how families could engage in income-generating projects that would fully utilize idle family manpower and available local materials found in the community.

Priority was also given to home industries and clothing projects in which about 221,097 families participated. Some 290,307 various types of home industry articles and 105,984 items of clothing were made.

A total of 232,177 families attended classes, forums and small group discussions that would equip them with the needed information and skills in the effective management and utilization of family and community resources.

There were 357,612 training sessions conducted for the families embracing homemakers classes, family life forums, home management forums, leaders' training, RIC meetings, community assemblies, special classes on serving, and clothing, and RIC children centers.

The BAEEx also sponsored 3,099 homemakers with 73,911 women participants on matters pertaining to food preparation techniques, supplementary feeding program, clothing construction and physical care of family members particularly children. The establishment and maintenance of RIC children centers numbering about 3,551 with 110,376 children enrolled were also given emphasis on provisions to improve the nutritional and health status of the pre-school children.

Bureau of Animal Industry

The last two years saw the DA, through the Bureau of Animal Industry, deeply involved in various major activities calculated to reach the rural areas through the implementation of the ten-year beef/carabeef program in addition to its regulatory functions, like quarantine, disease control, etc. Livestock commodities, such as cattle, carabao, and goats fall under the umbrella of the beef/carabeef program. Included as a vital part of the program is the development of range and pasture resources. The main thrust of production is on ruminants or grass-eating animals.

In pork, poultry and egg, it has maintained the current production levels with some allowance for increasing demand due to normal increase in population.

As a component of livestock development the DA, thru the BAI, directed its efforts on the enhancement and development of legumes and pastures. Thru the BAI, the following studies were successfully completed: introduction of ipil-ipil in disease-infested pastures, beef on native, native/centro, and native style pastures; seed production of siratro and delichos; crops and livestock in two Batangas barrios; and performance evaluation of pastures grasses and legumes in Mindoro. Presently, there are 180 on-going research studies mostly on legumes and pasture resources development.

Along Animal Disease Control Service, a program in immunization has checked the spread of hoof-and-mouth disease. A total of 3,700,000 heads of cattle and carabaos were vaccinated against HMD, while the number of animals vaccinated against all diseases totalled 20,325,000. Thirty-two (32) new positions for quarantine officers were also created and incinerators in ports of entry were constructed in Davao City, Cagayan de Oro City, and Mactan Island, Cebu.

As a feature of the Livestock and Poultry Development Services under the Central Bank-Department of Agriculture Livestock Loan Fund (CB-PHIL), otherwise known as Bakahang Barangay, the BAI ventured to undertake backyard beef production through provision of seed funds by the BAI to the Department of Rural Banks and Savings and Loan Association (DRRSLA), which in return farmed out seed funds to cooperating rural banks, where farmer-borrowers secured their supervised credit loans for backyard beef production. The Bakahang Barangay combines credit, technology and marketing services. The existence of livestockmarkets, accredited abattoirs, cattle or carabao feeder and breeder

stock, production technology cooperatives and experienced rural banks, willingness of farmers to cooperate in the projects, availability of improved pasture grasses and legumes, and training of rural bank managers and technicians are pre-requisites for this livestock loan. Of the P4 million seed funds, P3.25 million was loaned (STDS) to 1,806 livestock farmers who raised 2,710 heads of cattle. Of the P20 million IBRD Loan Fund, P5 million is still available for loan to livestock producers.

To upgrade the breeding base, the BAI has intensified its activities on artificial insemination services. In this regard, it has inseminated 738 cattle and carabaos in 1975; 9,130 in 1976; and 14,018 for 1977, respectively. In addition, over 800 breeding bulls were dispersed or loaned to barangays to augment the livestock program. A record level of 6,937 livestock was dispersed between January to December 1977. By species, this consisted of 2,730 large animals (2,457 cattle, 225 carabaos, and 48 buffaloes), 2,302 goats, 1,090 swine, and 50 ducks. A breakdown of the animals dispersed during the last years follows: 262 cattle in 1975; 609 cattle and 755 goats for 1976; and 6,937 cattle in 1977.

As the development of pasture improves the ecological balance in helping control floods and providing energy substitutes, so lies the success of the Beef/Carabeef Program on the extent of the pasture area development. The government has at present 20 pasture seed production centers at its breeding stations throughout the country's 12 regions to distribute pasture seeds to private ranchers and all interested parties. The BAI has also launched a pasture seed loan program in cooperation with the private sector which will return the seed loaned plus 15 per cent interest paid in kind. In 1976, 1,493 hectares of government farms were planted to forage. This was increased to 7,230 hectares in 1977. About 6,621 hectares of these areas were planted to grasses, and 609 hectares to legumes. 7.8 tons of ipil-ipil and other legumes seeds like stylo, centrosema, siratro, etc., were given to cooperators as the BAI resources would warrant. During the period under review, there were 1,750 cooperators for pasture resources development, 3,715 for supervised credit, and 1,806 for CB-DALL, or a total of 7,271 cooperators.

To increase milk production for proper nourishment of the people and cut imports on dairy products and by-products which cost over half a billion pesos last year, the BAI launched a 15-year dairy development

program. A total of 8 dairy plants, located in 4 regions of the country, produced 243,279 liters of milk. These dairy plants also purchased 153,852 liters of milk from small dairy farmers, and such milk pasteurized, bottled, and sold to the public at a minimal price, or given to schools to support the nutrition program. A total of 131,963 liters of milk, or 54 per cent of the milk produced were given to 6,873 children in 37 schools.

Towards the marketing needs of the small livestock raiser, 25 livestock markets were established and made operational throughout the country.

Fifty additional markets are being organized. Hopefully, these will catalyze livestock production by weeding out inefficiencies in livestock transactions and operations of livestock markets.

Along Diagnostic and Laboratory services, diagnostic examination has registered 16,000 specimens submitted at Central and Regional Diagnostic Laboratories.

In biologicals 16,337,415 doses of various vaccines were produced with veterinary drug production registering a total of 2,649,000 doses valued at P1.89 million.

By virtue of P.D No. 7, a 10-year Feed Control Development Program has also been launched to protect consumers against poor quality seeds. Registrants engaged in the feed milling business increased from 1,663 in 1976 to 2,061 in 1977. Income derived from registration and inspection fees was P490,000.

Some

To insure the supply of safe and whole ~~meat~~ meat to the consuming public, the National Meat Inspection Commission has formulated a policy on accreditation of all abattoirs, meat and processing plants. A total of 14 abattoirs had been accredited and classified as Class AA, 9 abattoirs as Class A, and 31 as Class B. Class AA abattoirs and processing plants can now transport their meat products for interprovincial and export trade while class A can only transport their meat products for interprovincial trade; whereas, Class B can only transport their product within the locality. A total of 370 meat delivery vans were also accredited.

Bureau of Soils

To effect ways and means of conserving the soil resources of the country, the DA, through the Bureau of Soils, conducted the survey and classification of various agricultural areas in the country which served other agencies, programs and projects in a capacity described as Abaca Development Program, Coconut Development Program, Laguna Lake Development Project, Samar Integrated Development Project, Watershed Project, and Masaganang Sakahan (MSI) covering an aggregate total of 1,557,831 hectares. These were classified and surveyed as follows:

<u>TYPES OF SURVEY</u>	<u>AREA COVERED</u> Hectares (Ha.)
Detailed soil survey	263,219
Semi-detailed soil survey	186,958
Reconnaissance soil survey	1, 033,590
Special soil investigation	74,064
	<hr/> 1, 557,831

Emphasis was given to soil conservation and management to prevent soil erosion in croplands. A total of 66,069 hectares or 66% accomplishment of cropland was placed under erosion control during the year. The technical assistance provided by the Bureau to farmer-cooperators to guard and/or protect farm lands against the exhaustion of plant nutrients or the loss of previous soil itself boosted the income-generating capacity of farmer-cooperators, who eventually turned out to be the instrument for the spread and acceptance of conservation farming in the rural areas.

In the soil fertility work of the DA, 5,514 field fertilizer trials were conducted by the Bureau of Soils during the year. To reassess the fertility and condition of the soil and to find the optimum fertilizer requirements to specific crops in the country, the bureau launched a soil fertility project covering four phases: 1) NPK-Requirements of Crops; 2) Field Fertilizer Verification Trials; 3) Compost-Making Demonstration; and 4) Multiple Cropping.

Along laboratory services, soil laboratories all over the country analyzed 184,935 soil samples and distributed 12,387 packets of soil inoculants.

In support of the government's major production programs including Masagana 59, Maisan 77 and Palayan ng Bayan, as well as the vegetable production programs specifically the Green Revolution and the Gulayan sa Kalusugan, the Bureau directly assisted thousands of farmers on the proper use and adoption of better fertilizer management.

Bureau of Agricultural Economics

The DA, through the Bureau of Agricultural Economics, has continued to undertake its major projects in (1) the collection of agricultural data for policy formulation and decision-making, (2) agricultural economics research and (3) agricultural marketing services. It has also pursued its continuing program of upgrading the technical skills of its workforce in its sustained personnel training to meet the demands for more meaningful supportive services to the agricultural sector in the country's development programs.

The major surveys on rice and corn were conducted as scheduled during the year completing the five rounds in the months of January, April, June, September and November. Estimates were made of palay and corn area, production and yield, together with monthly percentage distribution of harvests. Monthly surveys on palay and corn stocks were also undertaken. The data generated from these surveys significantly contributed to the assessment of the periodic rice and corn situation in the country, which facilitated effective stewardship of the rice and corn industries.

Statistics on livestock and poultry as well as those for other selected crops were collected, compiled and tabulated. Reports on crop damages were rendered after the occurrence of typhoons and floods during the year. Crop-cutting exercises were conducted in two selected training sites in the country in pursuance of the program to improve the quality of statistics. The daily collection was maintained on wholesale and retail prices of more than 100 selected agricultural commodities sold in 17 public markets in Metropolitan Manila and in 42 provincial trading centers throughout the 12 regions

of the country. Apart from the information on prices, on-the-spot assessments of trading in market centers were summarized in periodic reports which were rendered on the agricultural market situation in the country. A Commodity Intelligence Group (CIG) was organized at the Bureau to take charge of these activities.

The project on marketed quantities of agricultural commodities was implemented during the year in 10 selected markets; 5 in Metro Manila and 5 in the provinces (Cebu, Cagayan de Oro, Davao, Zamboanga and Davao Cities). This project enabled the collection of prices and volumes of selected agricultural products handled by 15 marketing intermediaries at both the wholesale and retail levels. The major marketing research studies conducted during the period were the studies on abaca marketing and fish marketing. The abaca marketing study is a supportive activity under the Abaca Production and Development Program. Fish marketing studies covered the fish landing terminal points in the cities of Zamboanga, Bacolod, and Iloilo. Weekly and monthly reports were rendered on 19 livestock auction markets in the country. The socio-economic studies in agriculture completed in CY 1977 were: Samar Integrated Rural Development Project, Cotabato - Agusan River Basin Development Project, "An Analysis of the Agricultural (short-term) Non-Repayment Problem in the Philippines," "An Economic Analysis of Poultry Production," and "A Socio-Economic Study of the Municipality of Burgos." Carried over to the year 1978 are the following on-going projects: "Farm Management Survey of Abaca Plantation in the Philippines;" "Costs and Returns of Producing Food and Commercial Crops;" "Farm Labor Wages;" "Survey of Capital Formation in Agriculture in the Philippines;" "Monthly Operations of Palay and Corn Farms;" "Farm Record-keeping Project;" and "Project Adam."

Personnel development was given emphasis during the year in review. Seven separate training courses, seminars and workshops were initiated by the training staff of the Central Office. A total of 362 employees attended said courses during the year and 31 employees attended the department-wide seminars for supervisors and for lower-level employees.

Under the BAEcon-Ford Foundation Staff Development Program, one M.S. scholar and one Ph.D. scholar completed their course work requirements at the University of the Philippines in Los Baños. The Bureau also sent Ph.D. scholar to pursue a course relative to her

doctorate dissertation at Yale University, Connecticut, U.S.A., in September 1977. Twenty-one non-degree scholars completed their courses at U.P.L.B., while weven M.S. scholars were still pursuing their courses as of the end of the year.

National Grains Authority

For the first time the DA, thru the NGA, procured an all-time high of 12.92 million cavans of grains, exceeding the CY-1977 target by more than 30% and breaking all records in the past years, broken down, as follows:

	<u>1977</u>	<u>Target</u>	<u>% Increase over Target</u>	<u>1976</u>	<u>% / Over 1976</u>
Palay	11.06 M	8.2 M	34,878%	4.8 M	130,416
White Corn	1.66	1.43	16.08%	.774	114.47
Feedgrains	<u>.203</u> 12.92 M	<u>.153</u> 9.78 M	<u>32.67%</u> 32.106%	<u>.084</u> 5.658 M	<u>141.55</u> 128.349

Aside from the good crop, the increase was attributed to higher buying price and more incentives offered as compared to the private sector. Moreover, traders ran short of capital to absorb the farmers' produce while NGA has intensified and widened the coverage in its field procurement operations. While the NGA managed to stabilize farm prices through its procurement program, it has also assured steady supply and prices on the consumer level, through its distribution operations. The NGA has also injected a total of 3.5 million bags of rice, 24.8% lower than the amount for the same period in 1976; and 544,352 million bags of corngrits, 10.94% lower compared to 1976. Cereal prices throughout the country remained within the government ceiling in many production areas. The significant increase in our purchases of local palay and corngrits coupled with this year's lower market injection has resulted in a marked improvement in our stock position throughout the year. As of December 31, 1977, NGA stocks settled at levels far higher than as of the same date in 1976:

	<u>1977</u>	<u>December 31, 1976</u>	<u>% Increase</u>
Rice	5.6 M	2.4 M	133.33%
White & Yellow Corngrits	.798	.546	46.15%
Sorghum, soybean	<u>.171</u>	<u>.036</u>	<u>375</u>
	6.569 M	2.982 M	120.29%

Due to a comfortable inventory position, 15,000 metric tons of rice was exported to Indonesia and a contract of 10,000 MT is slated for delivery by January, 1978.

On wheat importations, the NGA has contracted for 1977, 675,000 long tons of wheatgrains. Total wheat arrivals, however, have reached 643,800 long tons which included the carry-over from 1976. Since the NGA took over the importations of the country's wheat requirements, the domestic supply and prices of flour have been stabilized.

To promote increased production and self-sufficiency in feedgrains NGA has drawn up a Feedgrains Marketing Program consisting of a package of incentive, such as:

1. Marketing guarantee of existing government support prices for corn, sorghum, soybeans and mongo. The feedgrains procurement for the past three years increased by an average of 300% per annum. Further encouragement of production has been made possible through PD 1212 increasing the present price support of the said commodities.
2. Marketing tie-up with farmer's groups, sugar planters, corporate farms, feedgrains and livestock raisers.
3. Drying incentives of P0.05/kg. for clean and dry corn and sorghum.
4. Credit support for the acquisition of post-harvest facilities.

In addition, an in-depth study of cassava as another indigenous substitute for imported feedgrains is also underway, preparatory to preparing a marketing program for the same.

Under the three-year warehousing program, 85 modern grains warehouses have been completed (37 were finished in 1977), which now provide an aggregate maximum capacity of 6.5 million cavans. Thirty more are expected to be finished from now till 1978, bringing the number of warehouses under the program to 124 with a capacity of 8 million cavans.

The program on intensive infestation and pest control has resulted in a reduction of our storage loss from 6% down to about 1%, per actual survey. Value-wise, it means a potential yearly savings to the government of about P35.75 million, based on two-stock-two turnovers. In addition,

a savings of P5.3 million per annum on rentals for the 85 units at the prevailing rate of P4.50 per square meter was realized. Total savings from losses and rentals amount to P41.05 M for the 85 completed warehouses or, conservatively, a payback period (cost/savings) of about three years.

The establishment of 26 Grain Service Centers in strategic production and consumption areas was designed to service and educate the private sector in the latest developments in post-harvest technology. Each center was equipped with a warehouse, ricemill, dryers, grains laboratory, and a training center.

In accordance with a directive to phase out ricemills with less than 60% milling recovery, the NGA launched a ricemill development program. NGA completed its pilot test in Pampanga allowing licensees a period of one year to upgrade their recovery thru a package of technological and financial assistance from NGA; otherwise they would not be licensed to operate.

Along industry regulation, the NGA has licensed 86,610 grains businessmen and has collected P803 million in license fees representing 2.95% increase over last year's P7.8 million. The continuous increase of the number of grains businessmen indicated the confidence of private citizens in the profitability of engaging in the grains industry and the willingness to accept the social responsibility that goes with it.

In the enforcement of laws and regulations affecting grains businessmen, it has recorded a total of 14,100 apprehensions. Violators had either been penalized by suspensions or cancellations of licenses or by prosecution. During the year in review 122 licenses in Metro Manila alone had been cancelled. As a positive measure to check overpricing by retailers as well as to assure them of a reasonable profit, the NGA has fixed a ceiling on the wholesale price of milled rice at P103.00 per bag of 50 kilos only during lean months. To assure the stability of the supply and prices of cereals, NGA personnel constantly monitored the rice and corn situation in all public markets in the country.

In industry assistance, the NGA has subsidized 2,359 grains businessmen in the amount of P326,074.00 equivalent to 1,661,100 liters of gasoline and 1,456,250 liters of diesel fuel; sold on credit 27,697 bags of rice and 3,699 bags of white corngrits to sugar planters in Bacolod, Iloilo, and Dumaguete which were distributed to their workers on deferred payment.

On research, among the significant studies completed by the NGA in coordination with various agencies are: the quantification of the maximum storage period of brown rice; the development of a more efficient farm drier incorporating the best design features of the UPLB and IRRI units; and studies in the performances of rubber-roll hullers.

Also on-going is the research project on post-harvest processing, testing and evaluation of existing harvesters, threshers, driers, rice mills and storage facilities. The said project is funded by the International Development Research Center under a grant amounting to \$135,000 from the Canadian government.

Studies on post-harvest losses of grains and corresponding quality control measures are also being undertaken. The use of rice hull as fuel for thermal electric generating plants to provide power for rice mills, driers and other facilities has been completed with favorable results.

On the economic aspect of the grains industry, the NGA is continuously undertaking researches on supply, demand and prices of grains both on the domestic and international levels. Food consumption surveys and studies on rice, corn, feed and flour marketing are among the continuing projects being undertaken.

Along extension services, 33 training programs for farmers on post-production technology were conducted in Mindoro, Nueva Ecija, Iloilo, Leyte, Albay, Cotabato and Surigao. Seminars on sorghum post-harvest technology were also conducted in Bacolod, Davao, General Santos, Dumaguete and Cabanatuan for the benefit of sugar planters who have shifted to sorghum production. As a contribution to the fuel conservation program, the use of rice hull as fuel and mechanical driers was encouraged instead of the usual liquified petroleum gas. NGA has acquired 87 units of Hull-Fed driers and has been demonstrating its economic advantages to farmers and grains businessmen. Aside from these, 243 bakers associations were organized and 37 baking seminar-workshop conducted 24 cities and provinces in Luzon and some parts of the Visayas.

On corporate farming program, the response of the private sector has continued to be very enthusiastic. In addition to rice, the production of feedgrains has been well received due to the increasing consumption requirements of the poultry and livestock industries.

Reported harvests from the corporate farms registered 656,598 bags of palay, 52,791 bags of corn and 12,536 bags of feedgrains. Corporate farms had attained a high average yield of 38.3 cavans for palay and 17.8 cavan for corn. Significant strides in socio-economic development had been achieved by corporate farms through the transfer of technological and managerial expertise to the rural areas, provision of additional employment and community development projects such as infrastructure, educational programs for farmers and their families and the establishment of small scale industries. In addition, farmers who had entered linkage agreements with corporations had realized considerable increase in their income due to yield resulting from the financial and technological assistance they received from the corporations.

Trading operations of the NGA generated total gross sales of P516,582 million on all local and imported cereals except wheat. A decline of 12% was noted on sales as compared to the same period in 1976 primarily due to the 85% drop in sales of imported rice. The gross profit for 1977, however, more than doubled that posted in 1976. Gross profit realized increased by 115% from P18,853 million in 1976 to P40,487 million in 1977. This was the result of the shift in market injections from imported to local cereals. On the overall, the net loss incurred after deducting non-operating income declined by 14% from P47,525 million in 1976 to P41,668 million in 1977.

For the first nine months of 1977, total sales on wheat amounted to P735.178 million or an increase of 23% compared to the same period of 1976. Because sound financial management and efficient operations have enhanced NGA's financial condition, it has earned good credit standing locally and abroad.

Philippine Virginia Tobacco Administration

The local Virginia tobacco industry has grown into a multi-million peso enterprise through the stewardship of the Philippine Virginia Tobacco Administration. Since its buying function has been transferred to the private sector, the role of the PVTA is to regulate, control and supervise the trading of Virginia tobacco at designated trading centers. During the 1977 tobacco trading, a total of 43,462,989.83 kilos valued at P224,841,599.29 was purchased by twelve authorized buyers who operated

156 trading centers. The breakdown by province is as follows:

<u>Province</u>	<u>Net kilos</u>	<u>Percent</u>	<u>Purchase value</u>
a. La Union	14,074,845.13	32%	P71,326,701.95
b. Ilocos Sur	21,120,828.09	49%	110,060,816.42
c. Ilocos Norte	7,210,718.40	17%	38,678,658.10
d. Abra	1,056,598.21	2%	4,775,382.82
	<hr/> 43,462,989.83	<hr/> 100%	<hr/> P 224,841,559.29

The PVTA also has vigorously pursued a sustained drive to expand and diversify export trade both with traditional and non-traditional markets in order to promote the sale of locally grown Virginia leaf tobacco in the international market. As a result, the private sector exported a total of 8,942,936 kilos worth \$12,600,952.21. The principal trading partners for our tobacco exports were Japan, England, Australia and Italy.

To boost the Virginia tobacco industry President Ferdinand E. Marcos on October 28, 1975, approved for implementation the Integrated Agricultural Financing Program for the Ilocos Region. Under the program, the PVTA deposited under a special time deposit, which the Central Bank of the Philippines (CBP) makes available to selected rural banks which in turn grant loans (production and facility) to Virginia tobacco farmers. The main features of the loan is the integration of the production of rice, vegetables, corn and other crops with Virginia tobacco as the main crop. Overall, 13,353 tobacco farmers were assisted under this financing scheme from 1975 to 1977 with an aggregate area of 9,915.71 hectares valued at P18,030,966.29.

Other activities of the PVTA also included the following: a) implementation of the first solar-energized curing barn in Batac, Ilocos Norte, in order to conserve energy and arrest denudation; b) the hiring of five Taiwanese tobacco experts to assist with local technicians on some PVTA research programs to improve and modernize the culture of Virginia tobacco; c) establishment of compact farms in Ilocos Norte, Abra, Ilocos Sur and La Union that will serve as model for improved planting, culture, and curing techniques; d) the launching of the search for the outstanding

Virginia tobacco grower of the year designed to inspire and provide incentives to growers to produce quality leaf with the least production cost; e) establishment of a nursery in Pidigan, Abra, for the propagation of tobacco seedling to be distributed to farmers at minimal price; and f) implementation of a farm equipment assistance project, which will provide farm equipment such as water pumps, pipes and sprayers, for loan to farmers free of charge thru the Virginia Tobacco Growers Association.

Philippine Coconut Authority

The coconut industry has maintained its position as one of the top dollar earning industries in the country. During the year in review, it brought in \$723,139,516 to the national economy. Coconut oil contributed \$401,535,043; copra \$180,226,212; desiccated coconut \$82,779,185; copra meal \$51,994,819; shell charcoal \$2,659,994 and coconut shell activated carbon \$3,844,263. Export earnings in 1977 was 31.18% higher than the 1976 level.

Volume of coconut products for export, however, was much lower in 1977 than in 1976. In terms of copra, total amount exports in 1976 reached 1,808 million metric tons. This went down to 1,745 million metric tons in 1977. Copra export went down by 16.63% from 851,698 to 710,095 metric tons while desiccated coconut went up by 12.61% from 80,069 to 90,165 metric tons.

The exportation of coconut by-products like copra meal was down by 31.83% while charcoal experienced an increase of 14.26%. In addition to these two traditional exports of coconut by-products, a sizeable amount of charcoal shell activated carbon was exported in 1977. There were about 4,862 metric tons of coconut shell activated carbon that were exported.

The U.S.A. and the European countries remained the major markets for coconut products and by-products. Aside from these, some markets that have been tapped but which remained small importers of coconuts were the USSR, People's Republic of China, Canada, Indonesia, Japan, Australia, Taiwan, Hongkong, Korea, New Zealand, Singapore, Kenya, South America and the Middle East.

Despite the drop in volume of exports of some of the coconut products and by-products, export earnings have increased. This was brought

This was brought about by remarkable price increases as may be seen below:

TABLE I - EXPORT PRICE OF COCONUT PRODUCTS/BY-PRODUCTS,
1976-1977 (In US Dollars Per Metric Ton)

<u>TOTAL</u>	<u>1976</u>	<u>1977</u> ^{1/}	<u>Per cent Change</u>
Copra	\$ 190	\$ 356	86.84%
Coconut oil	345	547	58.26
Dessicated coconut	430	918	113.49
Copra meal	110	136	86.36
Shell charcoal	95	116	18.10
Shell activated carbon	-	790	-

In line with the policy of promoting and developing the coconut industry, the Philippine Coconut Authority has formulated and adopted a national coconut replanting program which will be launched formally in 1980. The importation of 70,000 hybrid seednuts from the Ivory Coast in 1976 was an initial step towards the realization of this goal. These were germinated, grown and maintained in the different hybrid nurseries established in eight coconut regions throughout the country.

Each region received an allocation of about 5,000 seednuts except for Alaminos Nursery which was given 33,000 seednuts. Of the 70,000 seednuts, over 50,000 hybrid seedlings were selected in the 55 pilot hybrid farms. Planting and cover cropping in these pilot hybrid farms were 98% complete.

Aside from the blocked 50,000 hectare pilot areas in Quezon, Batangas and Laguna provinces, there were 50 other pilot hybrid farms with an area of 120 hectares. The blocked 50,000 hectare pilot areas are expected to be replicated in each coconut region during the implementation of Phase II of the coconut replanting program.

^{1/} January to November only.

The PCA has undertaken agricultural research on coconut breeding and genetics through surveys, observations, and collection of local coconut plantations. Other agricultural research studies covered major and specific agronomic problems and coconut nutrition problems; the biology and etiology of coconut pests and diseases; discovery of control and preventive measures and the development of more practical ways of utilizing the coconut timber.

On extension services and farm projects activities, a coconut baseline survey was launched in May, 1977, with the object of evaluating the present extension activities of the PCA field personnel by identifying the impact of these activities on the development of the industry and determining the reactions of clientele-farmers. Intensive extension services were extended to the coconut farmers in the form of consultation and forum/symposium, technical assistance on clearing, intercropping, cover-cropping and fertilization.

Module farms and demonstration farms were maintained and managed. The module farm is a consolidation of small or sub-marginal coconut farms into an economically manageable plantation where research findings on clearing cultivation and multi-culture and/or livestock raising are applied,

The promotion and development of coconut cottage industries were also undertaken. Trainings and demonstrations of the processes of manufacturing cottage industry products were likewise held.

There were 12 coconut industry training centers established to promote the maximum usage of coconut by-products like fiber, shell and leaves; and 465 persons trained to date.

The PCA has participated in 15 agricultural industrial and commercial expositions, trade fairs and displays, eleven of which were local fairs and four were foreign. The latter were held in Leipzig Spring Fair, Germany; New Zealand International Trade Fair; Tehran International Trade Fair; and Salzburg, Austria Trade Fair.

The PCA has also organized seven coconut marketing associations and two cottage industry producers associations to provide farmers with better bargaining position.

Along CCSF Implementation Levy Collections and Subsidy Payment,

total CCSF levy collection in 1977 increased by 53.07% from the previous year's level from P750,408,020.35 to P1,160,028.37. Some P12,250,000.00 levy are still collectible from delinquent levy payers as of the end of 1977. The sizeable increase in levy collection was due mainly to the doubling of the levy.

In 1976, total subsidies paid out to oil millers, laundry soap and copra meal manufacturers and premium duty subsidy amounted to P147,832.44. This amount was 19.43% of the total levy collected for the same year. In 1977, however, this increased to P617,820,741.27 or 53.22% of the total levy collected.

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